



BSB December 16, 2019 One-Day Workshop Minutes

LOCATION: ODOT D8 Artemis

DATE: December 16, 2019

TIME: 9:00 AM - 2:00 PM EST

Minutes Prepared/Last Revised: January 3, 2019

1. Attendees

- a. Sign in sheet attached

2. General Discussion

- a. Workshop overview
 - i. Review and develop concepts based on ODOT's new performance-based design
 - ii. Brainstorm performance-based solutions to minimize costs
 - iii. Develop revised traffic model based on new counts once entire year data has been collected in summer 2020
 - iv. Design year traffic – 2040
 - v. Workshop to identify up to 3 concepts to further develop and analyze
- b. Discussion of Toll Studies
 - i. Majority of traffic diverts to Dan Beard, Clay Wade Bailey and other local bridges
 - ii. Tolling rates affect diversions. \$1 and \$2 auto toll rates were previously analyzed
 - iii. Whiz Bang concept moved local traffic to existing BSB
 1. Provided a potential option of not tolling local traffic. The traffic and revenue impacts of not tolling the existing bridge has not been analyzed
 2. Could regulate lanes on existing BSB to control tolling avoidance
 - iv. Toll studies considered EJ impacts.
- c. Design Criteria



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- i. CD roadways – it is okay to look at lower design speeds, but capacity must be sufficient to not back traffic up on the interstate
 - ii. Identify any connections to add/omit for Transmodeler
 - iii. System to system connections of I-71, I-75 and US 50 preferred and can be left hand – not considered ramps
 - iv. If system to system not possible, can be on CD, but not low speed CD
 - v. ODOT and FHWA are open to ramps with design exceptions on FWW. These ramps were not modified with the BSB project.
 - vi. Design Speed
 - 1. 55 MPH posted speed acceptable for design (Alt I used 60 MPH)
 - 2. No clear minimum speed for variable speed on ramps, don't go below medium on a new ramp. Other considerations will be included in decision making
 - 3. Make existing ramp design speed no less than current posted speed
 - vii. Other Criteria to Consider
 - 1. Through travel time
 - 2. How will HSM be used?
 - a. In Ohio, look at ramps with the most crashes first (EB US 50 to SB I-75 is the worst today – left entrance on a curve)
 - b. In KY, HSM used at corridor level
 - viii. Vertical Clearance – use state standards
 - ix. Stay within Alt I environmental footprint if possible – use cost/benefit to determine value of additional property
 - x. Travel time reliability – add to design considerations
 - xi. New bridge vertical clearance – 25 feet for overhead signs (check Alternative I report)
 - xii. Has there been any consideration of all NB on one bridge and all SB on one bridge? Concern is that volumes are not likely to be accommodated on the existing BSB which is desired to have only 3 lanes per deck
 - xiii. “Local” user definition – need to define
 - xiv. Cost in 2017 estimated at \$2.3 billion. Construction in 2024 estimated at \$2.6 billion
 - xv. Consider a Super M Concept – Concept M in Ohio and Super Street in Kentucky



3. Project Defined Goals

- a. Discussed project goals used to develop Alternative I and which ones could be loosened and which ones should be held.
 - i. No lane shall be over capacity
 - 1. Only exceptions could be un-tolled lanes to reduce diversion
 - ii. No lane shall have substantial unused capacity
 - 1. Do not dismiss an alternative just for this reason (potential for extra lane on Whiz Bang for maintenance) – lower priority
 - iii. No lane shall have more than two destinations
 - 1. Reconsider, superstreet could have more than two destinations
 - 2. Should we allow changes to access?
 - a. What are critical access points in Ohio and Kentucky
 - i. SB I-75 to NB I-71 and SB I-71 to NB I-75
 - ii. Ohio – Ezzard Charles, US 50, 2nd, 3rd are highest priorities
 - iii. Kentucky – 12th highest priority due to hospital, 4th entrance and 5th exit highly preferred
 - iv. No lane shall have more than one merge, diverge, or weave as a result of a local entrance or exit
 - 1. Use analysis to determine
 - v. Lanes shall end on the right of through lanes to avoid weaves
 - 1. Change to should/can instead of shall
 - vi. Lanes shall begin on the right of through lanes to avoid weaves
 - 1. Change to should/can instead of shall
 - vii. All lanes could operate as separate, independent roadways relevant to other local roadways
 - 1. This is “Cadillac” solution
 - 2. Lane continuity on interstate is important, truck lanes may conflict
 - 3. Strike this goal or loosen it
- b. All goals should be open and not constrain potential design

4. Concepts Presented

- a. Whiz Bang (Concept W)
 - i. Concept developed to reduce construction costs
 - ii. Used same configurations of roadway as Alternative I north and south of bridges
 - iii. Reduce width of new bridge
 - iv. Reduce grade on SB I-75
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- v. Improved SB I-71 horizontal geometry
 - vi. 55 MPH design speed used for mainline profiles
 - vii. Left exit to 5th proposed in Kentucky
 - viii. Saved ~\$300 million from Alternative I
 - ix. Further refinement north of river is possible to reduce grades
 - x. Traffic evaluated for fatal flaw
 - 1. Did not run a bridge tolled option
 - 2. No O&D changes made in traffic analysis
 - 3. Former traffic imported to Whiz Bang from Alternative I
 - 4. More modeling to be performed – Transmodeler
 - 5. How does future (non-bus) transit impact? BSB not planned to be used, Clay Wade Bailey would have transit if build as rail
 - 6. Noted that future road/bridge maintenance efforts will have a greater impact on traffic flow than Alt. I. Consider adding an additional lane or additional width
 - xi. Loses some (US 50) freeway to freeway connection. Is this okay? (design matches Alternative I)
 - xii. If local access (BSB) is not tolled
 - 1. Does it back onto freeway?
 - 2. Impact revenue stream?
 - 3. Can we study tolling options?
 - xiii. Option to prohibit local CD back to I-71/75 to eliminate toll jumping within a tolled mainline and no tolled CD
 - b. Super Street (Concept S)
 - i. Focus on rerouting bridges/ramps on Ohio side
 - ii. Utilizes a circulator and super street concept.
 - iii. US 50 movements are maintained
 - iv. Conceptual level study now
 - 1. Number of lanes not finalized
 - 2. Final traffic (signals or merge) TBD
 - 3. Concerned about NB to 5th in Ohio – is this controlled? Can't back up onto bridge.
 - 4. May need one or two pedestrian bridges
 - 5. Potential for Texas U Turn at 9th
 - 6. Access to downtown changes (9th, 7th, 6th, 5th)
 - v. On Kentucky side
 - 1. NB CD removed
 - 2. Connection to 5th maintained
 - 3. SB CD moved to east
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4. Decision point to access Covington is very similar to Alt I
 5. Some concern for long retaining walls along SB CD in Kentucky
 - vi. Is this any more buildable than Alt I? Can any be kept at grade?
 - vii. Does tolling traffic reduction (year 2040) impact number of lanes?
 - viii. I-75 traffic has been modeled (as was Eastern By-Pass) using Transmodeler. It is calibrated and can be used to study BSB going forward. Can look at options more easily with this tool
 - ix. Don't overlook constructability, operations during road/bridge maintenance, and other nonstandard day traffic scenarios.
 - x. Any cost saving from Alternative I? Further study needed for design.
 - xi. Toll cost impacts diversion and rate of return travel.
 - xii. Will local bridge (BSB) be left untolled? (Concept W allows tolls better than Alt I)
 - xiii. Action – define “Local Traffic”. It was clear that there is more than one use of the term
 - xiv. What is acceptable level of service for BSB local traffic?
 - xv. Can we look at CD design speeds and reduce from 60 mph?
 - xvi. Make same connections as Alt I
 - xvii. Compare safety and travel time for CD ramps/system
 1. Elimination of conflict points, improved safety
 2. Remove left turns
 3. Can NB I-75 ramp to US-50 be restored?
 4. Keep WB I-71 to NB I-75 as freeway to freeway connection, system to system – fix this or it is a fatal flaw
 - xviii. Ramps from mainline priority over Concept S
 - xix. Design speed of 35 mph on Concept S
 - xx. Would need conflict point reduction numbers
 - xxi. NB I-71/75 to WB, move to SB I-71 to WB 50 ramp
 - xxii. Consider pulling southern end of loop north to Fifth street
- c. Concept M
- i. Keeps all existing movements on BSB except mainline I-75. Eliminates cross over on Ohio side of I-71 and I-75
 - ii. Eliminates cross over/under of SB CD in Ohio
 - iii. Keeps most ramping systems east of mainline I-75 that are relatively new
 - iv. Presented sketch not to scale; mainline and SB CD can be moved east



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- v. Need to develop system to system connections of I-75/I-71/US 50 – assumed similar to existing in between NB and SB mainline directions in Ohio
 - vi. Has MOT and constructability benefits and lends itself to event traffic control and incident management
 - vii. The public will recognize the cost savings, not tearing out things built with FWW. Keeps movements to what they are used to, won't have to relearn connections
 - viii. Can SB (pink line on exhibit) be put on the Clay Wade Bailey Bridge to access Covington?
 - 1. Fixing railroad bridge is a worthy analysis – CSX
 - 2. Cover SB I-71 access to Covington in further study – can access to 4th and 5th be maintained as is today?
 - 3. How does SB I-75 access Covington?
 - ix. Are there enough lanes with only 3 on each deck of BSB? (capacity/ops)
 - 1. NB AM peak hour is 6700 to I-71 and downtown, 3900 continues north
 - 2. Combine NB I-75 access to Cincy 5th and Ezzard Charles, not on BSB. Numbers could work if NB BSB only had US 50, I-71 and 2nd.
 - 3. Want option to pay toll and stay on I-75 to access local
 - x. Proceed with further study of Concept M
 - xi. Existing Alt I design exceptions can remain if not capacity or safety problem

5. Concepts Moving Forward

- a. Concept W (Whiz Bang)
- b. Concept S (Super Street)
- c. Concept M